Deposited Solid Etalons are a special type of solid etalon in which the cavity is formed by a deposited layer of coating material. The thickness of this coating layer determines the etalon’s free spectral range (FSR) and reflectivity finesse. Therefore, in a real etalon, the actual finesse will usually be lower than the reflectivity finesse.

The bandwidth (FWHM) is given by:

$$\text{FWHM} = \frac{\text{FWHM}}{\text{FSR}}$$

where:

- $\text{FWHM}$ is the Full Width at Half Maximum (FWHM) of the interference fringes.
- $\text{FSR}$ is the Free Spectral Range of the etalon.

The reflectivity finesse, $R$, is given by:

$$R = \frac{\text{FWHM}}{\text{FSR}}$$

where:

- $\eta$ is the reflectivity of the coating layer.
- $d$ is the thickness of the coating layer.
- $l$ is a constant depending on the substrate material.
- $n$ is the refractive index of the coating material.
- $\omega$ is the angular frequency of the incident light.
- $\lambda$ is the wavelength of the incident light.

The reflectivity finesse of a Fabry-Perot etalon is given by:

$$R = \frac{1}{1 - \eta^2}$$

where:

- $\eta$ is the reflectivity of the coating layer.
- $d$ is the thickness of the coating layer.
- $l$ is a constant depending on the substrate material.
- $n$ is the refractive index of the coating material.
- $\omega$ is the angular frequency of the incident light.
- $\lambda$ is the wavelength of the incident light.

The free spectral range (FSR) of the etalon is given by:

$$\text{FSR} = \frac{\lambda^2}{2d}$$

where:

- $\lambda$ is the wavelength of the incident light.
- $d$ is the wavelength of the incident light.

The thickness of the coating layer determines the FSR and reflectivity finesse of the etalon. Therefore, in a real etalon, the actual finesse will usually be lower than the reflectivity finesse.